

REMARKS

Claims 1-3, 5-7, 9-13, 15-17 and 19 are pending in this application. Claims 7, 15, 16 and 19 have been objected to only as being dependent upon rejected base claims, and claims 1-3, 5, 6, 9-13 and 17 have been rejected. Claims 1 and 17 are independent.

The Examiner is thanked for the indicated allowability of claims 7, 15, 16 and 19. Those claims have been maintained unchanged because, as explained below, the claims from which they depend themselves are believed to be allowable.

The Rejection Under 35 U.S.C. § 103

Claims 1-3, 5-7, 9-13 and 17¹ have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent appln. publn. no. 2002/0109760 to Miyazawa et al. in view of Japanese laid-open patent appln. no. 10-235889 to Masuda et al. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Applicants' invention, as described in claim 1, relates to a liquid cartridge for supplying liquid by being mounted on a liquid ejecting apparatus. The cartridge has a container body with an opening part, which is opened, at a first side face, a lid, which is attached to the first side face of the container body, for covering the opening part, and a penetrating part formed at the container body or lid, the penetrating part being formed at an engaging part, which has an extending part that extends along a second side face adjacent to the first side face of the container body. A caulking part is formed at the container body or lid and is inserted into the penetrating part in order for a tip part thereof to be caulked. The container body or lid is

¹ Although the text of this rejection does not mention claim 17, the Office Action Summary sheet states claim 17 stands rejected. Accordingly, it is believed claim 17 was intended to be listed in the body of this rejection. If, however, that is incorrect and claim 17 stands allowed, the Examiner is requested to contact the undersigned to confirm this point.

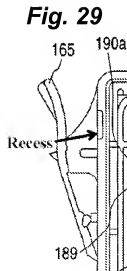
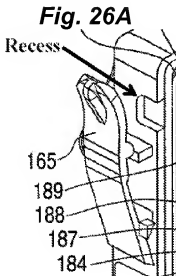
provided with either of the engaging part or caulking part respectively at plural second side faces adjacent to the first side face. The penetrating part of the engaging part at a first one of the second side faces is a penetrating hole in order for the caulking part to be inserted, while the penetrating part of the engaging part at a second one of the second side faces is formed as a notch in order for the caulking part to be inserted.

According to claim 17 this invention also involves a method for manufacturing a liquid cartridge through the steps of providing the liquid cartridge, the liquid cartridge having a container body having an opening part, which is opened, at a first side face, a lid, which is attached to the first side face of the container body, for covering the opening part, a penetrating part formed at the container body or lid, an engaging part, which has an extending part that extends along a second side face adjacent to the first side face and penetrating part, and a caulking part formed at the container body or lid and inserted into the penetrating part, in order for a tip part of the caulking part to be caulked, wherein the engaging part, penetrating part or caulking part are respectively provided at plural second side faces, wherein the penetrating part of the engaging part at a first one of the second side faces is a penetrating hole into which the caulking part is inserted, and wherein the penetrating part of the engaging part at a second one of the second side faces is formed as a notch into which the caulking part is inserted, determining a position of the lid in regard to the first side face of the container body by fitting the caulking part into the penetrating part and fitting the engaging part, which has the penetrating hole at the first one of the second side faces, with the caulking part corresponding to the penetrating hole, and fitting the caulking part, which corresponds to a notch at the second of the second side faces, into the engaging part having the notch by turning the lid toward the container body, taking a fitted

part between the penetrating hole and caulking part as a turning center, and deforming the tip part of the caulking part with heat to perform caulking.

Thus, in Applicants' invention, a penetrating part disposed at a first of several second side faces is formed as a penetrating hole in order for a caulking part to be inserted. Therefore, the penetrating hole firmly holds the caulking part before the caulking part is caulked. On the other hand, the penetrating part disposed at a second one of the second side faces is formed as a notch in order for a caulking part to be inserted. Therefore, the notch makes the caulking part be easily inserted. As a result, it is easy to assemble a liquid cartridge constructed in the manner claimed, and the lid can be solidly fixed to the container body.

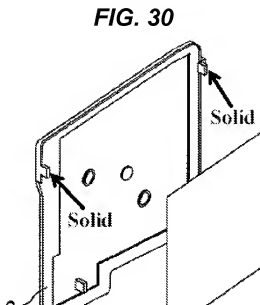
Miyazawa² merely discloses a liquid cartridge having a notch disposed at one of the second side faces. As shown in Figs. 26A and 27 below, the structure of Miyazawa that the Office Action characterizes as a "notch" actually is a recess having a flat surface.



² Miyazawa is commonly assigned along with the present application. To the extent this response discusses Miyazawa, such discussion involves the general teachings of that reference, and should not necessarily be construed to limit the scope of the claims of Miyazawa or its counterparts. If Miyazawa is characterized as teaching a particular feature or mode of operation, the claims of that reference and its counterparts should not necessarily be construed to require that feature or mode of operation.

Applicants therefore respectfully submit it is not appropriate to characterize Miyazawa's recess as a notch in the sense of the claimed invention.

It also should be noted that the portion of Miyazawa's lid that is received in Miyazawa's recess is a solid, tab-shaped piece, as shown in Fig. 30, part of which appears below:



Neither Miyazawa's recess nor the tab-shaped piece together are arranged so that a projection is received in a corresponding opening in the manner recited in Applicants' claimed invention. That is, there is no suggestion that the tab itself has either an opening or a projection, much less that the opening and projection be arranged in the manner claimed.

In this regard, it should be noted that the Office Action **admits** Miyazawa does not disclose a caulking part formed at the container body inserted into the penetrating part for a tip thereof to be caulked with heat (Office Action, p. 5).

Consequently, Miyazawa does not teach or suggest that the penetrating hole could be disposed at the other second side face in the manner of the claimed invention.

Although the Office Action looks to Masuda to remedy Miyazawa's defects, Masuda does not remedy those deficiencies.³

Applicants respectfully traverse the Office Action's characterization of Masuda and suggestion to modify Miyazawa's cover to use Masuda's cover member 30 and pin hole 31. As explained below, Masuda has two covers, a tank lid 72 that closes off the ink chamber and which is sealed without projections and openings, and cover member 30 that encloses the ink jet print head, meaning one skilled in the art seeking to improve on how Miyazawa attaches the ink cartridge lid would look to Masuda's tank lid 72, not cover member 30.

The Office Action equates Masuda's cover member 30 to the claimed lid. That, however, is not correct. As is clear from Fig. 4 of Masuda, cover member 30 serves to enclose the printer head and related components which are part of Masuda's ink tank so that those components remain warm, as explained at pages 9-10, ¶ [0048] of the accompanying machine English translation of that reference. So Masuda's cover member 30 is not a lid as claimed. Rather, Masuda's ink tank lid is an entirely different structure, tank lid 72, and, as explained below, that structure is attached in an entirely different way than is claimed.

The portion of Masuda's ink tank containing ink is closed by tank lid 72 (see ¶ [0042] of the machine-English translation of Masuda). As shown in Fig. 4 of Masuda, tank lid 72 does not have any pins or openings, meaning it could not be attached as claimed. Rather, Masuda's tank lid 72 has an edge structure which, it is respectfully submitted, would suggest to one skilled in the art that the tank lid is attached either by use of a bonding technique such as welding (melting) or adhesive.

³ Masuda is a Japanese-language reference, and the Office Action did not provide a translation thereof. In the interests of clarity, Applicants are submitting in the accompanying Information Disclosure Statement a machine English translation of Masuda obtained from the Japanese Patent Office.

Consequently, one skilled in the art combining Masuda with Miyazawa in order to close off the opening in an ink tank body would be led to weld/melt the cover onto the body of the ink cartridge without using any penetrating holes or projections in the manner of Applicants' claimed invention.

Moreover, even if one skilled in the art were to apply the aspects of Masuda involving use of a pin holes 35 to Miyazawa, that still would not suggest the claimed invention. While the Office Action correctly notes Masuda provides a pin hole 35 in cover member 30 (see ¶ [0030] of the machine English translation), it is important to note that Masuda's penetrating hole (pin hole) is disposed in the lid, **not at the second side face**, in the manner of the claimed invention.

Also, Masuda only teaches providing a pin hole, and does not even suggest a notch, much less a notch as claimed. For this reason as well the claimed invention patentably distinguishes over the cited art.

Consequently, neither Miyazawa nor Masuda, nor the combination thereof, even suggests all the features of Applicants' invention, or the advantages thereof. The claimed invention is not suggested by those references, and so is patentable thereover.

Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

Applicants respectfully submit that all outstanding rejections have been addressed and are now overcome. Applicants further submit that all claims pending in this application are

patentable over the prior art. Favorable reconsideration and withdrawal of those rejections and objections is respectfully requested.

Other than the fee for the accompanying Information Disclosure Statement authorized therein, no fees are believed to be due in connection with the filing of this paper. Nevertheless, the Commissioner is authorized to charge any fees now or hereafter due in this application to Deposit Account No. 19-4709.

In the event that there are any questions, or should additional information be required, please contact Applicants' attorney at the number listed below.

Respectfully submitted,

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